



# MARIPOSA COUNTY Local Agency Management Program

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## Onsite Wastewater Treatment Systems

MARIPOSA COUNTY HEALTH DEPARTMENT  
ENVIRONMENTAL HEALTH SERVICES DIVISION

01/24/2017

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## **I. INTRODUCTION AND SCOPE:**

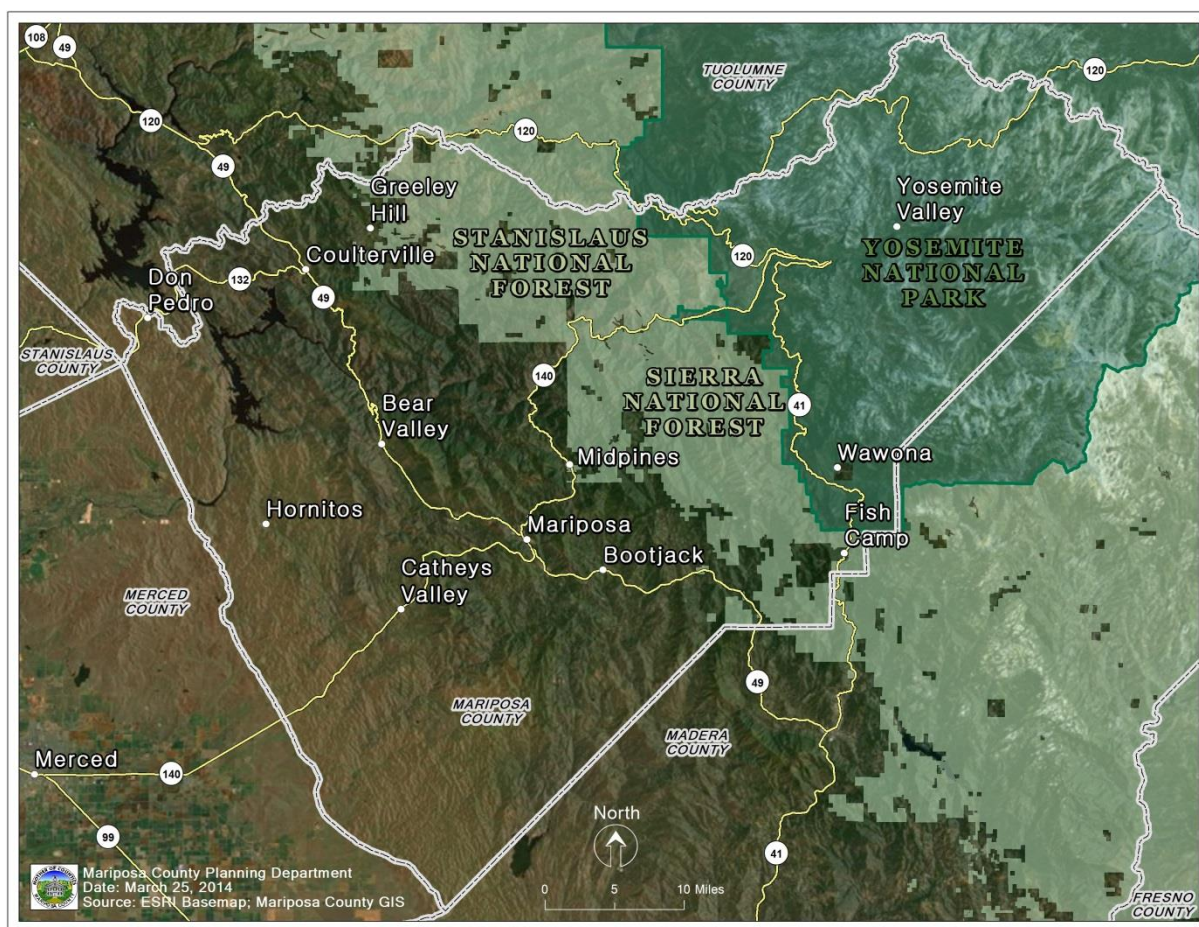
### **A. Purpose:**

The Mariposa County Local Agency Management Program Plan (LAMP) describes how Mariposa County's Onsite Wastewater Treatment System (OWTS) program is in compliance with the State Water Resources Control Board *Water Quality Control Policy for Siting, Design, Operation, and Maintenance of Onsite Wastewater Treatment Systems*, dated July 2012 (POLICY) and applicable Basin Plan policies adopted by the Central Valley Regional Water Quality Control Board. The LAMP describes standards and procedures for reviewing and approving OWTS for individual lots and subdivisions in Mariposa County. The LAMP demonstrates that the Mariposa County OWTS regulatory program is protective of public health and the environment by ensuring the proper treatment and disposal of liquid waste through the appropriate siting, design, installation, maintenance, and monitoring of OWTS given the specific geologic, hydrologic, and soil characteristics of Mariposa County.

### **B. Geographical Setting:**

Located in the western foothills of the Sierra Nevada Mountains, Northeast of Fresno, East of Merced, and Southeast of Sacramento, Mariposa County is bordered by Tuolumne, Madera and Merced counties. The county has a total area of 1,463 square miles (3,790 km<sup>2</sup>), of which 1,449 square miles (3,750 km<sup>2</sup>) is land and 14 square miles (36 km<sup>2</sup>) (1.0%) is water. Approximately 58% of the county is publicly owned land. Public lands include: The National Park Service, Yosemite National Park, Sierra National Forest, Stanislaus National Forest, State of California, Army Corp of Engineers, Bureau of Land Management, Mariposa County and Mariposa County School District. The remaining 42% of the County is privately owned lands. Approximately 50% of the privately owned lands are under Williamson Act Contracts that prohibit development.

Mariposa County is wholly located within the boundaries of the California Regional Water Quality Control Board, Central Valley Region.



*Map showing the Boundaries and Geographical Area of Mariposa County.*

### **C. Introduction and Applicability:**

Mariposa County is a rural county with no incorporated cities. A few of the densely populated areas include public sewer systems; however, the majority of the households rely on OWTS. The California Department of Finance estimates the total population of Mariposa County is 17,531 in the 2015.

The Mariposa County Health Department, Environmental Health Services Division is responsible for regulating OWTS located in all areas of Mariposa County except Yosemite National Park, which maintains exclusive jurisdiction over itself. Privately owned inholdings located in Yosemite are regulated by the Mariposa County Environmental Health Services Division.

The Environmental Health Services Division is part of the Department of Public Health. The Environmental Health Services Division has been overseeing the installation, maintenance and repair of OWTS for over 50 years. The Environmental Health Services Division staff regularly attend continuing education in the field of OWTS siting and design. The current staff working in the OWTS program have a combined experience of 52 years working with OWTS in Mariposa County.

The LAMP will apply throughout Mariposa County.

The LAMP does not apply to the following:

1. Individual OWTS that are installed or designed predominantly for recreational vehicle wastewater, commercial/ industrial wastewater including food processing, and winery/brewery wastewater from commercial development in areas not served by public sewer without specific authorization from the Regional Water Quality Control Board.
2. Community sewage disposal systems including public sewer systems and community on-site sewage disposal systems.

Notwithstanding number 1 and 2 above the LAMP will be applicable under certain conditions: (1) with authorization from the Regional Water Quality Control Board, the OWTS project will be under the jurisdiction of Mariposa County LAMP for application/plan review, issuing authorization to construct, and construction inspections; (2) the wastewater is low strength black water from lavatories and toilets at commercial facilities; (3) high strength liquid waste from commercial food facilities with a BOD of <900 mg/l/day that are connected to a grease separator before discharging to a disposal area; and (4) gray water that is discharged in compliance with our gray water ordinance [Chapter 13.10](#), state law or regulation.

**D. Supporting Regulatory Documents:**

The LAMP relies upon the following Mariposa County Regulatory Documents:

1. Mariposa County Code, Title [13.08](#), *Sewage Disposal*, that addresses the siting, design, construction, operation and maintenance of OWTS.
2. Mariposa County [Rules and Regulations governing onsite sewage disposal](#) pursuant to Mariposa County Code, section 13.08.090 that further addresses the siting, design, construction, operation and maintenance of OWTS.
3. Mariposa County Code, Title [13.12](#), *Cleaning of Sewage Disposal Systems* that addresses standards for businesses engaged in liquid waste pumping from OWTS.
4. Mariposa County Code, Title [13.06](#), *Sewers*, that addresses connections to sewer systems.
5. Mariposa County General Plan, that addresses [land use and density](#).
6. Mariposa County Code, Titles [16](#), [17](#), *Planning*, that addresses subdivisions and zoning setbacks.
7. Mariposa County Health Department [Policies](#) regarding sewage disposal.

**E. General Overview and Types of OWTS, Scope and Coverage:**

Mariposa County Code, Title 13.08 provides requirements for OWTS proposed as part of subdivision of land, a building permit, a land use permit, or replacement, upgrade, and/or repair of an existing system. Mariposa County Environmental Health Services Division has a long-standing relationship with the Fresno office of the Regional Water Control Board where we work collaboratively on systems discharging between 3500 gpd and 10,000 gpd. We refer systems that discharge more than 3,500 gpd on

a case-by-case basis, depending on threat potential, to the RWQCB as outlined in Health Department Policy 16-04. Therefore, Mariposa County Code currently meets the standards within the POLICY.

Mariposa County Rules and Regulations governing onsite sewage disposal provides requirements for the following types of OWTS:

1. Standard Systems: OWTS that use gravity to disperse effluent throughout the disposal field, and in which no pretreatment device is utilized are standard systems. This includes OWTS that use a pump to transport effluent received from the septic tank to an uphill disposal field where the effluent is then dispersed by gravity into an absorption field.
2. Alternative Systems: OWTS that use an advanced method of effluent treatment and/or distribution, and are designed by a Professional Engineer (civil), Certified Engineering Geologist or Registered Environmental Health Specialist licensed/registered in the State of California. An alternative system is designed to mitigate soil and/or groundwater conditions that render a lot inappropriate for a standard septic system, or to mitigate severely inadequate replacement area for repair or replacement of an existing, improperly functioning on-site sewage disposal system.
3. Prohibitions:

Mariposa County Health Department Policies do not allow OWTS to include:

- Leach (Seepage) pits with a width greater than 3 feet and a depth greater than 5 feet,
- Waste Disposal wells
- Cesspools,
- Discharge to the surface

**Areas to be excluded from OWTS installation:**

- Areas known to be subject to erosion, slope instability, or within identified landslide-prone areas.
- Low swampy areas, areas with permanent or intermittent springs, areas with a high groundwater (permanent, fluctuating, seasonal, or perched) within two feet of the ground surface, areas which are subject to standing water, or areas which are subject to flooding by storms having a recurrence interval of less than ten (10) years.
- Portion of the lot in which there is ledge rock, hard pan, soils with a percolation test results greater than 120 minutes per inch (mpi), or other impervious formations within two (2) feet of ground surface will not be acceptable as an area for installation, expansion, or replacement of an individual sewage disposal system.
- Installations into areas with fractured rock, or with less than 30% fines as outlined in Policy 91-6.

- Areas of excessive slopes that cannot be mitigated against breakout.

## 5. Appeals/Variances

- Any person may appeal decisions of the Environmental Health Services Division to the Environmental Health Manager. The appeal must be in writing and submitted with 10 days of the decision, stating reasons and including supporting documentation.
- Any decision of the Environmental Health Manager may be appealed to the Director of the Department, and ultimately the Board of Supervisors who will set the date and time of the hearing. All appeals are to be submitted in writing to the Environmental Health Services Division within 10 days of the decision. When the appeals are made to the Board of Supervisors, the Clerk of the Board sets the time and place of hearing, and provides notice to the appellant and the department.

## II. SITING AND DESIGN:

### A. Site Evaluation:

An OWTS site evaluation must be performed:

1. By a Registered Environmental Health Specialist employed by Mariposa County and experienced in siting evaluation of OWTS.
2. By an OWTS consultant who is a licensed Professional Engineer (Civil), Professional Geologist, Certified Engineering Geologist, Registered Environmental Health Specialist, or a Certified Professional Soil Scientist.
3. Under inspection by the Environmental Health Services Division. This includes prior notification to the Environmental Health Services Division to ensure that staff is available to witness the site evaluation.
4. Prior to the issuance of any permits to construct, expand, modify, or replace an OWTS, or approval of a lot line adjustment or tentative subdivision map. The exception to this is when Environmental Health Service Division reviews existing soil data and approves modification of an existing system that is functioning properly, including expanding the disposal area or the replacement of a septic tank.

All aspects of an OWTS site evaluation are performed by a qualified professional and will include an on-site review of surface features and conditions which shall include one or more soil evaluations within the boundaries of the area of the on-site sewage disposal system proposed for construction, expansion, alteration, replacement, or repair. Soil characteristics, including texture, color, structure, plasticity, and porosity of each horizon, shall be evaluated to determine permeability.



The qualified professional will identify limiting conditions including, but not limited to; bed rock, hard pan, ground water, saturated soils, impermeable soil layers, and observed free water.

When a consultant is used/required the qualified professional will prepare a site evaluation report that includes all data relative to the proper placement, design and operation of an on-site sewage disposal system, including, but not limited to, percolation tests, soil profiles, hydrometer tests, depth to groundwater, slope measurements and surface water flow for each proposed sewage disposal system or lot to demonstrate compliance with these standards. All data, whether used in the final design of the disposal field or rejected, shall be included in the report.

The standards require the report be signed by the consultant responsible for the site evaluation and include their license/registration number. The OWTS consultant will submit the site evaluation to Environmental Health Services Division for review. After reviewing the site evaluation report, the Environmental Health Services Division may require additional information including a follow up technical report prepared by a Certified Soil Scientist, Certified Engineering Geologist, Professional Geologist, or Registered Professional Engineer to address soil limitations and/or slope instability.

## **B. Hydro Geologic Evaluation:**

To verify adequate separation of OWTS from groundwater, the qualified professional will estimate the highest anticipated level of groundwater by identifying the highest extent of soil mottling to natural grade observed in a soil profile, or by direct observation of stabilized groundwater levels.

If the consultant uses, or Environmental Health Services Division requires direct observation of groundwater levels, the consultant will use performance wells or piezometers to collect measurements every 2 weeks during the wet weather period between October 15<sup>th</sup> and March 15<sup>th</sup>. The wet weather period may be extended earlier or later depending on weather patterns and with approval of the Environmental Health Services Division. The consultant may propose alternate wet weather groundwater plans provided the groundwater monitoring plan will capture seasonal high groundwater elevation in the proposed primary and reserve disposal fields.

Where a conflict exists between the depth of groundwater observed through direct observation during wet weather conditions and the depth at which soil mottles are observed, the direct observation of actual groundwater levels will govern.

In the case of a proposed subdivision, if the Environmental Health Services Division determines that there is a potential for significant degradation or impact to the elevation of groundwater or the surface water supplies, the project is denied based on CEQA findings of significant and un-mitigatable conditions.

## **C. Land Use Projects with Onsite Wastewater Treatment Systems:**

Mariposa County Rules and Regulations governing onsite sewage disposal systems specifies that the Environmental Health Services Division will review land use projects, subdivisions including tentative maps, and proposed lot line adjustments, prior to approval.

The applicant and/or owner of the property shall be responsible for supplying any and all information, testing, and consent to inspect, as required by the Environmental Health Services Division, to verify that the subdivisions or lot line adjustments comply with applicable codes, rules and regulations. The Environmental

Health Services Division reports its conclusions together with any conditions necessary to ensure compliance with all applicable codes, rules and regulations to the Planning Department or other responsible agency.

#### **D. Domestic Wells and Parcel Size**

Mariposa County standards address the concern of high usage of domestic wells in areas that use OWTS by regulating parcel size, and are more protective of public health and the environment by requiring less density for a subdivision than the average densities per subdivision specified in the POLICY.

Mariposa County Code, Title 17 requires that where sewage disposal is not by means of a sewer operated by public sewer agency, it shall be by means of an OWTS located entirely on the lot generating the sewage.

Each proposed lot within a subdivision that is not served by a public sewer system will meet the following minimum site and design criteria:

1. Lots served by both an individual water supply and an OWTS that are not located in a town planning area shall not be less than 5 acres.
2. Lots, which are served by OWTS and community water supplies in town planning areas operated by a public agency or utility district shall not be less than 2.5 acres.
3. Parcels that meet the above, but have limiting conditions on site must be of sufficient size in order to meet the required setbacks to accommodate the conventional site development.

A detailed discussion of Mariposa County OWTS standards for subdivisions can be found in the Mariposa County Health Department Policy 03-01.

#### **E. General Design Standards:**

1. All new, expanded, modified, repaired, or replacement OWTS will be in a location for which the applicant has obtained site evaluation data for the use in the design and installation of the system.
2. A replacement area equivalent to 100% of the initial system area conforming to the standards is required for every lot served by an OWTS.
3. Soil Texture Zones are those described in the unified soil classification system.
4. The percentage of coarse fragments throughout the effective soil depth will not exceed seventy (70%) percent by volume as retained on a #10 sieve.
5. Percolation Rates in the disposal field area and the effective soil depth within the disposal area shall not be less than 5 minutes per inch or more than 60 minutes per inch.

There is an exception for alternative and experimental OWTS: the percolation test results throughout the disposal field area and required effective soil depth will not be less than one minute per inch or more than 120 minutes per inch for new lots created after 2003. Lots created prior to 2003 are allowed to have systems designed in areas where the percolation rate is slower than 120 mpi when no other option is available for the design.

6. Slope. Currently the OWTS standards require native slopes not be more than 30%. Other slope limitations may apply depending on the type of on-site sewage disposal system proposed. Lots may not

be graded or altered in any manner to accommodate the slope requirement and leach lines will not be installed in areas of excessively concave slopes. Mariposa County Code meets and exceeds the provisions within the POLICY.

7. Areas of filled soil or unstable soil formations will not be used for a disposal field site. The on-site sewage disposal system shall be located and installed in natural, undisturbed and unobstructed ground or earth.
8. No grading shall occur in the area of the proposed or installed on-site sewage disposal system or replacement area.
9. An individual on-site sewage disposal system shall only be installed on the same lot as the structure to which it is connected.
10. Disposal fields and replacement areas shall be maintained so as to facilitate aerobic treatment and the evapotranspiration of wastewater.
11. Disposal fields will not be reduced in lineal feet for the use of chamber systems.
12. OWTS will be located so as to be accessible for maintenance or repair. Septic tanks, dosing tanks, and interceptors will be located so as to readily allow pumping and maintenance. Pressure distribution lines shall be located to accommodate monitoring and flushing of the lines.
13. Septic Tanks shall be constructed of reinforced concrete. Fiberglass or polyethylene tanks may be installed where concrete tanks are not feasible because of access limitations, slopes, or safety concerns, only with the approval of Environmental Health Services Division.

Mariposa County OWTS standards require that non-typical standard leach field design, alternative, experimental, and pump systems be designed by an OWTS Designer who is a Professional Engineer, Certified Engineering Geologist, or Registered Environmental Health Specialist. The OWTS Designer will use the site evaluation data discussed previously for the design of the disposal system to ensure maximum equal distribution of wastewater through-out the disposal area. Mariposa County Health department Policies discuss the use of various types of components and systems.

Mariposa County OWTS standards also address the use of sealed vaults including portable toilets In Mariposa County Code Section 13.08.030.

Mariposa County OWTS standards require that any person proposing to develop any property utilizing an OWTS, whether for new construction, remodel, addition, or replacement must submit copies of the general site layout, the detailed OWTS drawn to scale, and floor plan for the proposed development to the Environmental Health Services Division. The plans must be complete, and must clearly show the exact locations of the following whether existing or proposed:

1. Parcel number and address if applicable;
2. Name, address and telephone number of property owner;
3. Name, address, and telephone number of the person preparing the application package;
4. A vicinity map and the scale used;
5. Lot dimensions including all property lines, setbacks, easements, right-of-ways, and side yards;
6. Vehicle traffic areas whether paved or unpaved;

7. Structures including pools, dwellings, and auxiliary buildings;
8. Any hazardous materials storage including fuel tanks;
9. Animal enclosures;
10. Plumbing including existing and proposed stub outs and water lines;
11. Existing and proposed wells, springs, neighboring wells, streams, ditches, canals, ponds, and any other body of water located within 100 feet of the property line;
12. Areas subject to flooding, ravines, bluffs, cut banks, and the slope;

Each project will have a site evaluation unless the project does not cause any increase in the potential generation of sewage and Environmental Health Services Division has conducted an inspection and verified that the project will not significantly impact the existing OWTS or the replacement area for the OWTS. For a detailed discussion of building permits, new construction, additions, and replacement structures please review Mariposa County [residential/commercial](#) site plan requirements and application.

The Mariposa County Building Division routes all Building Applications to the Environmental Health Services Division for review. Environmental Health reviews each application to determine whether there is a need to (1) modify/upgrade an existing OWTS; (2) install a new OWTS; (3) perform a site evaluation to identify a replacement area; (4) conform the project to all septic and well setbacks.

Mariposa County OWTS standards specify the minimal horizontal separation between the components of the OWTS including the required reserve area. These setbacks are detailed in Table 1.

**Table 1: Minimum Setback Requirements.**

Facility	Domestic Well	Public Well	Flowing Stream <sup>1</sup>	Drainage Course or Ephemeral Stream <sup>2</sup>	Cut Or Fill Bank <sup>3</sup>	Property Line <sup>4</sup>	Lake Or Reservoir <sup>5</sup>
Septic Tank or Sewer Line	50	100	50	25	10	25	50
Leaching Field <sup>6</sup>	100	150 - 200 <sup>10</sup>	100	50	4 times the height max 100ft	50	200-400 <sup>7,9</sup>
Seepage Pit <sup>8</sup>	150	150-200 <sup>10</sup>	100	50	4 times the height max 100ft	75	200-400 <sup>7,9</sup>

**Notes:**

1. As measured from the line which defines the limit of a 10-year frequency flood.
2. As measured from the edge of the drainage course or stream.
3. Distance in feet equal four times the vertical height of the cut or fill.
4. This distance shall be maintained when individual wells are to be installed and the minimum distance between waste disposal and wells cannot be assured.

5. As measured from the high water line.
6. Leachfields must be located in areas of less than 30% slope.
7. May be reduced to 100 ft if pond meets conditions in policy 07-02
8. Only allowed in extreme cases for repairs, additional mitigation factors required.
9. Where the effluent dispersal system is within 1,200 feet from a public water systems' surface water intake point, within the catchment of the drainage, and located such that it may impact water quality at the intake point such as upstream of the intake point for flowing water bodies, the dispersal system shall be no less than 400 feet from the high water mark of the reservoir, lake or flowing water body.
10. If the dispersal system is > 10 feet in depth the setback shall be increased to 200 feet

Where adverse conditions exist, Mariposa County Code allows the Environmental Health Services Division to increase the minimum horizontal separation distances pertaining to the construction of the OWTS. The Environmental Health Division (EHSD) is requiring setbacks of septic tank and disposal field to be 150 – 200 feet from a public water system pursuant water board drinking water division standards.

Mariposa County OWTS standards/policies also establish soil depths for each limiting condition. Table 2 details limiting conditions:

**Table 2: Soil Depth below Absorption Field to Limiting Condition,**

<b>Soil texture<sup>1</sup></b>	<b>Percolation Rate Minutes per inch (mpi)</b>	<b>Depth to groundwater</b>	<b>Depth to other limiting factor</b>
<b>Sand, Loamy Sand</b>	1 mpi – 5 mpi	Requires Alternative treatment design <sup>2</sup>	3 feet <sup>3</sup>
	6 mpi- 60 mpi	5 feet <sup>3</sup>	3 feet <sup>3</sup>
<b>Sandy Clay, Clay Loam, Clay, Silty Clay, Silty Clay Loam, Silt Loam, Silt</b>	6 mpi – 60 mpi	5 feet <sup>3</sup>	3 feet <sup>3</sup>
	61 mpi- 120mpi	5 feet <sup>3</sup> May require alternative design	3 feet <sup>3</sup>

**Notes:**

1. Soil texture of the most limiting soil layer in the active leaching layers directly below proposed disposal fields ( within two feet to five feet below trench bottom depending on the type of system
2. If an alternative system is used then the depth may be reduced to two to five feet dependent on the system proposed. Pretreatment and de nitrification may be required for any allowed reduction of setback.
3. Separation distances may be reduced to two feet if a pretreatment device approved by Environmental Health Services Division is used before disposal by pressure distribution
4. Applies to sites approved for alternative systems utilizing pressure distribution methods and can be reduced if a pretreatment device is used before disposal of effluent into soil.

In summary, Mariposa County OWTS standards meet the intent of the POLICY and the Basin Plans the California Regional Water Quality Control Board.

Mariposa County OWTS standards are protective of public health and the environment by; (1) requiring a site evaluation for a new OWTS or the repair, replacement, modification of an existing system; (2) identifying replacement areas with **at least** 100 % the size of the initial disposal area in case of the initial system failure during the site evaluation process; (3) requiring consultants with specific credentials to design systems; (4)

allowing the use of alternative systems such as pressure dose, ATU/nutrient treatment system, sand filter, at grade, mound system etc; (5) not allowing unacceptable designs such as: Evapotranspiration systems, leach pits and cesspools.

For a detailed discussion of OWTS system designs and specification see Mariposa County Title 13.08 and Mariposa County Rules and Regulations governing on-site sewage disposal systems.

#### **F. Impaired Water Bodies**

There are no identified impaired water bodies within Mariposa County.

#### **G. Installation Near Existing Sewers:**

Mariposa County OWTS standards require a connection to a public sewer for all proposed lots, new development, additions, or remodels that propose to generate wastewater, and for existing structures requiring repairs to septic system if sewer is available and the property is located within 200 feet of the line.

Mariposa County will not issue permits for the installation, repair, replacement, or expansion of an OWTS if a sewer is deemed to be available. Mariposa County OWTS standards do not apply to community sewage disposal systems including public sewer systems that are subject to Regional Water Quality Control Board review and approval. For a detailed discussion of OWTS system designs and specification see Mariposa County Title 13.08 and Mariposa County Rules and Regulations governing on-site sewage disposal systems.

#### **H. Inspection, Construction and Enforcement:**

The Environmental Health Services Division references the *Onsite Wastewater Treatment Systems* by US EPA dated 2002, *Onsite Wastewater Treatment Systems* by Bennette D. Burks and Mary Margaret Minnis dated 1994, Product information and design specification for OWTS manufacturers and distributors, *Environmental Engineering and Sanitation* by Joseph Salvado 4<sup>th</sup> edition or later as references for OWTS within Mariposa County.

The Environmental Health Services Division tracks all complaints regarding the discharge of sewage and the failure of OWTS through the Department's internal database. Each location is provided a unique tracking number and information related to the type of the complaint and actions to abate are saved and can be readily recalled as needed. Environmental Health staff responds to all complaints of failed OWTS and the discharge of sewage by conducting inspections, documenting site conditions, and issuing a Notice of Violation specifying corrective actions as needed. For OWTS the typical corrective actions include stopping the discharge and obtaining a permit to repair or replace the OWTS. Initial response is the same day we are notified or no more than 24 hrs.

The Environmental Health Services Division addresses OWTS malfunction, poor performance, or failure by:

1. Responding to complaints of failing systems and/or unpermitted repairs;
2. Permitting of OWTS installations, modifications, expansions, or repairs;
3. Conducting construction inspections including, a preconstruction meeting, inspecting open trenches, inspecting rock and pipe, conducting other inspections as necessary for the system and a final construction inspection;
4. Reviewing the design consultants certification that the OWTS has been installed according to standards and permit conditions;

5. Issuing septic tank destruction permits and conducting inspections;
6. Requiring maintenance and performance monitoring annually by an approved OWTS consultant when alternative design systems using aerobic treatment technology are installed.
7. Requiring maintenance and performance monitoring notices to be placed on the deed of alternative design systems using aerobic treatment technology.

Mariposa County OWTS standards require an applicant to obtain a permit for the installation, repair, replacement, expansion, modification, or destruction of an OWTS. The standards provide that the contractor, property owner, or any other person must not violate or fail to comply with any construction permit condition, and require that only the work specifically authorized by the construction permit may be performed.

Mariposa County Environmental Health Services does not require a permit for the following:

- Clearing stoppages in pipes as long as OWTS is undisturbed;
- Cleaning each septic tank, dosing tanks, interceptor, holding tank or other sewage receptacle that is pumped by a sewage disposal service that is permitted by Mariposa County;
- Exposing portions of the OWTS to evaluate its performance or operation as long as it is not damaged, altered, modified, or repaired;
- Repairing Risers and lids;
- Repairing Effluent filters;
- Repairing Sanitary tees;
- Repairing Distribution boxes

The Environmental Health Services Division may address malfunctioning or failing systems by denying, suspending, or revoking a permit for: (1) not complying with standards; (2) a failing or abandoned OWTS; (3) providing false information; (4) failing to comply with monitoring or maintenance requirements. The OWTS standards prohibit the surface discharge of sewage. The OWTS standards provide that any person, firm, corporation, will be deemed guilty of an infraction and subject to a fine. For more detailed discussion of these activities see Mariposa County Code, title 13.08.

## **I. Operation and Maintenance Program**

Mariposa County implements a comprehensive operation and maintenance program through the following methods:

1. Education of OWTS Owners.

The Environmental Health Services Division maintains information on its website to educate OWTS owners on proper operation and maintenance. This information can be found at: <http://www.mariposacounty.org/index.aspx?nid=378>

The information provides general guidance to all OWTS owners on proper operation and maintenance of OWTS. Mariposa County also maintains electronic databases that the public can access which has

documents (permits, design, and site map) specific to the permit for the specific OWTS. Mariposa County requires that homeowners with engineered OWTS provide operation information and all conditions to a subsequent property owner or tenant upon transfer of the property.

## 2. Public Outreach:

The Environmental Health Services Division provides information on Mariposa County OWTS standards, general soil characteristics, and general ground water depths, as well as information on specific parcels to consultants, contractors, property owners, and prospective buyers and their representatives in person, by telephone, and by email. Mariposa County EHSD is on-call 24/7 to respond to sewage releases in all areas of Mariposa County.

The Environmental Health Services Division has OWTS file information in both hard copy and a digital imaging format that is available for review upon request. Environmental Health Service Division provides public information from these files by email as describe above, or US Mail upon request.

The Environmental Health Services Division portion of the Mariposa County website has FAQs on OWTS; lists of OWTS consultants, licensed septic contractors, licensed septic pumpers that work within the county; information for owners on maintenance of OWTS; and site evaluation information. The Environmental Health Services Division has previously coordinated well monitoring programmatically with the Mariposa County watershed management group.

### **III. WATER QUALITY IMPACTS:**

#### **A. Licensing:**

Mariposa County OWTS standards and State Laws require the following certification, licensing, or registration, of the professionals involved in the installation, modification, repair, upgrade, and maintenance of OWTS:

1. OWTS Consultant--The OWTS consultant will be a Professional Engineer, Professional Geologist, Certified Engineering Geologist, or Registered Environmental Health Specialist certified/ registered by the State of California. or a Certified Professional Soil Scientist certified by the Soil Science Society of America.
2. OWTS Designer --The designer is an OWTS consultant who is a Professional Engineer, Certified Engineering Geologist, or Registered Environmental Health Specialist certified/registered by the State of California.
3. OWTS Installer --A contractor licensed by State of California as a General Engineering contractor (Class A), General Building contractor (Class B), Sanitation System contractor (C-42), or a Plumbing contractor (C-36) that conforms to Business and Professions Code sections 7056, 7057, and 7058.
4. OWTS Service Providers – The OWTS standards currently require maintenance and performance monitoring done by a licensed consultant or contractor with knowledge of OWTS triennially for operating, monitoring, and maintaining an OWTS according to the Policy and Mariposa County Code.



An exception to this is that the property owner, as an owner builder, is allowed by law to install his/her own OWTS under permit with inspections from the Environmental Health Services Division and perform annual maintenance to their alternative or experimental OWTS in accordance with manufacturers requirements.

Currently, the Mariposa County requires as built plans and operation and maintenance manuals for all engineered OWTS as part of the required design consultant's certification for each system. Mariposa County provides information on the operation and maintenance of OWTS to all owners of newly installed systems.

#### **B. Liquid Waste Disposal and Disposal Capacity:**

Environmental Health Services Division regulates liquid waste pumping within the political boundaries of Mariposa County pursuant to Mariposa County Code, Title 13.12 and the Health and Safety Code. Environmental Health Services Division inspects and issues permits for liquid waste pumping/portable toilet companies that work within Mariposa County. The Environmental Health Services Division receives pumper reports from owners of all permitted vehicles. Environmental Health Services Division enters this data into database capable of interacting with the county GIS system to track the disposal and to use as a monitoring tool for the indication of failing septic systems.

The Environmental Health Services Division will assess the county's liquid waste disposal capacity by performing the following actions:

1. Survey the POTW capacity within Mariposa County.
2. Determine the total volume of septic waste from pumper truck manifests.
3. Survey Septic Pumper firms permitted by Mariposa County to verify septic waste disposal locations in and outside Mariposa County.

#### **C. Cumulative Impacts:**

Mariposa County OWTS standards define a community sewage disposal system as a system that accepts sewage from two or more lots and is owned, operated, and maintained according to the Mariposa County General Plan by a government agency, public utility, maintenance district, or other similar entity approved by the Local Agency Formation Commission. Community sewage disposal systems must be approved and operated under permit from the applicable California Regional Water Quality Control Board.

Mariposa County OWTS standards address nutrient and salts by prohibiting the discharge of waste to an OWTS from roofs, water softeners, and swimming pool filters. Mariposa County OWTS standards allow the Environmental Health Division to require the use of treatment devices to reduce nitrogen to protect ground water from nitrates. When Environmental Health Services Division receives an application to repair or modify an existing OWTS on an existing non-conforming lot with shallow ground water and/or restricting soil conditions, then the repair or modification may be required to include the addition of a pretreatment device. Within Mariposa County, the known area with high nitrate levels in groundwater is in the BIC Farms area. The Central Valley Regional Water Quality Control Board has identified the sources of nitrate being predominantly from sources other than OWTS. These include historic turkey ranching operations. In the BIC Farms area, OWTS are dispersed throughout the area on large lots with limited density and special well drilling requirements. Therefore, Mariposa County OWTS standards continue to protect public health and the environment.

#### **D. Public Water Systems**

Mariposa County does not have any Public Water System intakes within 2500 feet of an OWTS. Mariposa County currently does not allow the use of seepage pits or waste wells, and currently does not allow disposal at depths of 10 feet or greater, hence the requirement for notification of a Public Water System within 600 feet of such a system is not applicable in Mariposa County. Environmental Health Services Division currently notifies the OWTS Designers of the 150 feet setback to public drinking water systems. When an OWTS is proposed within 200 feet of a public water system, the Environmental Health Services Division will notify the owner/operator of the public water system as well as the State Water Resources Control Board, Division of Drinking Water prior to issuing the construction permit and may require an alternative design including but not limited to an aerobic treatment device. Environmental Health Services Division will notify both the public water system operation and the SWRCB, Division of Drinking Water within 72 hours of determining there is a failing OWTS within 200 feet of a public water well. Mariposa County sewage standards cover this process of notification during permit process. Therefore, Environmental Health Services Division procedures meet the standards to address notice regarding OWTS meeting proximity standards detailed in the POLICY.

#### **E. Monitoring and Reporting:**

The Environmental Health Services Division will use the following types of data for the water quality-monitoring program:

1. Complaint investigation reports;
2. Operation and maintenance inspection reports;
3. Data in the SWAMP database;
4. Data contained in the GAMA database;
5. Operation and maintenance reports submitted to Mariposa County by owners and service providers;
6. Examine frequency of septic pump outs on a given lot using our established database;
7. Use repair permits and inspection reports;
8. Laboratory data received, as courtesy copy, from Public Drinking Water Systems;
9. Laboratory data received, as a courtesy copy, from private well owners who voluntarily submit data;
10. The laboratory data received, as courtesy copy, from NPDES and WDR permitting requirements;
11. Any laboratory data received as a part of a report submitted as borings/ well permit requirements;
12. Any laboratory data from monitoring wells, storm water, surface water bodies that are collect by or provided to our office;
13. Laboratory reports associated with new subdivision water testing;

Therefore, the Environmental Health Services Division's water quality monitoring program meets the POLICY and the Basin Plan policies of the California Regional Water Quality Control Board.

#### **F. Record Retention:**

The Environmental Health Services Division maintains complaint records including notice of violations, inspection reports, correspondence, permits, site evaluations and system designs. Initially maintained as hard copy, these records are retained permanently as imaged documents. The Environmental Health Services Division has a record retention policy and regularly provides documents pursuant to the California Public Records Act. Environmental Health Services Division will provide documentation to the applicable California Regional Water Quality Control Board pursuant to the California Public Records Act and Health Department Policy 92-6.

#### **G. Reporting:**

The Environmental Health Services Division will submit an Annual Summary Report by February 1, each year to the applicable California Regional Water Quality Control Board. The annual report will include the following:

1. The location and type of OWTS related complaints investigated during the year and how the complaints were resolved
2. Discussion of the application and registration for septic tank cleaners ( Pumpers)
3. The number, location and description of new, modification/upgrade, and repair permits issued and under which Tier.

The Environmental Health Services Division will submit a Monitoring and Analysis or Water Quality report every 5 years as required by the Water Board Policy that includes the following:

1. The review of water quality data described above.
2. The review of complaints in the past five years that involve OWTS.
3. The review of OWTS failures (repairs).
4. The review of O&M inspection findings.
5. An assessment of the water quality within Mariposa County based on data from the water quality monitoring described above.

Mariposa County will provide requested documents/information to the applicable California Regional Water Quality Control Board according to the time lines specified in the State OWTS Policy and by State law.

#### **IV. SUMMARY:**

Mariposa County OWTS standards are protective of public health and environment and meet the POLICY's OWTS Tier 2 standards and the Basin Plan policies of the Central Valley, California Regional Water Quality Control Board by:

- Addressing areas vulnerable to OWTS Pollution;

- Identifying limiting conditions during site evaluations;
- Requiring site evaluations to be performed by licensed/registered consultants;
- Requiring septic designs to be performed by Certified Engineering Geologist, Registered Environmental Health Specialist, or a Professional Civil Engineer;
- Requiring enhanced protection by the use of advanced treatment and denitrification units;
- Responding to complaints of failing OWTS;
- Requiring failing OWTS to be destroyed, repaired, or replaced under permit;
- Addressing shallow soils, poor drained soils, and fractured bedrock;
- Addressing high OWTS density by requiring increased lot size and specifying the use of a hydrological study, if warranted, of the cumulative impact of a proposed subdivision; and
- Not allowing cesspools and seepage pits;

## **References**

- Water Quality Control Policy for Siting, Design, Operation, and Maintenance of Onsite Wastewater Treatment Systems, State Water Resource Control Board, June 19, 2012
- Onsite Wastewater Treatment System Policy, Draft Substitute Environmental Document, State Water Resources Control Board, June 6, 2012
- Environmental Engineering and Sanitation, Joseph Salvato, 4<sup>th</sup> Edition
- Design Manual --- Onsite Wastewater Treatment and Disposal Systems, United State Environmental Protection Agency, October 1980
- Onsite Wastewater Treatment Systems Manual, United States Environmental Protection Agency, February 2002

## **Appendix 1**

### **Region V Checklist for LAMPs**

	<b>LAMP Review, Mariposa County</b>			
	<b>K. Carpenter, D. Calanchini, E. Rapport revised 11 October 2016</b>			
	<b>GENERAL REQUIREMENTS FOR LAMPs</b>			
<b>O W T S P o l i c y S e c t i o n</b>	<b>OWTS Policy Section Summary</b>	Region 5 Comments (These do not replace your review of OWTS Policy. Italics and websites are specific explanations, more detailed than in the Policy.)	<b>Relevant LAMP Section</b>	<b>Legal Authority/ Code Section</b>
3.3	Annual Reporting	For Section 3.3 et seq, describe your program for annual reporting to Central Valley Regional Water Quality Control Board (Central Valley Water Board) staff in a tabular spreadsheet format.	p. 20	Waterboard Policy 3.3 and Mariposa County Sewage Disposal Rules and Regulations Section .055

3.3.1	Complaints	Include numbers and locations of complaints, related investigations, and means of resolution.	p. 20	Waterboard Policy 3.3.1 and Mariposa County Sewage Disposal Rules and Regulations Section .055
3.3.2	OWTS Cleaning	Include applications and registrations issued as part of the local cleaning registration pursuant to California Health and Safety Code §117400 et seq.	p. 17-18	County Code 13.12
3.3.3	Permits for New and Replacement OWTS	Include numbers and locations of permits for new and replacement OWTS, and their Tiers.	p. 20	County Code 13.08.070
3.4	Permanent Records	Describe your program for permanently retaining records, and means of making them available to Central Valley Water Board staff within 10 working days of a written request.	p. 20	Government Code Title 1, Division 7, Chapter 3.5, section 6253©
3.5	Notifications to Municipal Water Suppliers	Describe your program for notifying public well and water intake owners, and the California Department of Public Health. Notification shall be as soon as practicable, but no later than 72 hours upon discovery of a failing OWTS, as described in Sections 11.1 and 11.2, within setbacks described in Sections 7.5.6 through 7.5.10.	p. 19	Water Board Policy Section 3.4 and Mariposa County Sewage Disposal Rules and Regulations Section .055
9.0	Minimum OWTS Standards	This Section is an introduction; we require no specific LAMP Section citation here.		
9.1	Considerations for LAMPs	For Section 9.1 et seq., provide your commitment to evaluate complaints, variances, failures, and inspections in Section 9.3.2 (Water Quality Assessment); and your proposed means of assessment to achieve this Policy's purpose of protecting water quality and human health.	p. 14-15	County Code 13.08.120, Mariposa Rules and Regulations

9.1.1	Degree of vulnerability due to local hydrogeology	<i>Describe your commitment, and proposed means to identify hydrogeologically vulnerable areas for Section 9.3.2, after compiling monitoring data. Discuss appropriate related siting restrictions and design criteria to protect water quality and public health. Qualified professionals ("Definitions," page 9 in the Policy) should identify hydrogeologically vulnerable areas. Such professionals, where appropriate during a Water Quality Assessment, should generally consider locally reasonable percolation rates of least permeable relevant soil horizons, best available evidence of seasonally shallowest groundwater (including, but not limited to, soil mottling and gleying, static water levels of nearby wells and springs, and local drainage patterns), threats to receptors (supply wells and surface water), and potential geotechnical issues (including, but not limited to, potentially adverse dips of bedding, foliations, and fractures in bedrock).</i>	p. 9 II, Siting and Design, A, Site Evaluation, beginning on page 7, and B., Hydro-Geologic Evaluation, beginning on page 8.	Mariposa Health Department Rules and Regulations 0.061 - 0.063
9.1.2	High quality waters and other environmental conditions requiring enhanced protection	<i>Describe special restrictions to meet water quality and public health goals pursuant to all Federal, State, and local plans and orders. Especially consider appropriate alternatives to those provided in Section 7.8, Allowable Average Density Requirements under Tier 1. See also: State Water Resources Control Board Resolution No. 68-16.</i>	p. 9-10	Code 17.020.010, Mariposa County General Plan 5-10
9.1.3	Shallow soils requiring non-standard dispersal systems	<i>We interpret "shallow" soils generally to mean thin soils overlying bedrock or highest seasonal groundwater. Dependent on threats to receptors, highest seasonal groundwater can locally include perched and intermittent saturated zones, as well as the shallowest local hydraulically unconfined aquifer unit. See Section 8.1.5 for Minimum Depths to Groundwater under Tier 1. Qualified professionals should make appropriate determinations on the design and construction of non-standard dispersal systems due to shallow soils.</i>	p. 10-12	Mariposa Rules and Regulations 0.061 0.066, Health Department Policy 03-01
9.1.4	High domestic well usage areas	<i>Our key potential concerns are nitrate and pathogen transport toward receptor wells, especially in areas with existing OWTS already prone to soft failures (OWTS failures not evident at grade). Appropriate qualified professionals should consider reasonable pollutant flow paths toward domestic wells, at minimum based on; publically available nitrate concentrations in local wells, published technical literature on local wastewater and non-wastewater nitrate sources, well constructions, pumping demands, and vulnerability of wells due to local hydrogeology. For pathogens, qualified professionals should ensure that field methods are sufficient to mitigate the potential for false positives.</i>	p. 9	Mariposa General Plan Pg 5-30 Health Department Policy 03-01

9.1.5	Fractured bedrock	<i>Where warranted, appropriate qualified professionals should assess permeability trends of water-bearing fractures, and related potential pathways of effluent toward receptors, including but not limited to, domestic wells and surface water. The professionals should also consider potential geotechnical issues. We suggest consideration of fractured bedrock in concert with percolation rates of overlying soils; either very high or low percolation rates might warrant siting restrictions or non-standard dispersal systems. See also State Water Resources Control Board Order WQ 2014-0153-DWQ, Attachment 1, page 1-3, Item A-3.</i>	p.7	Mariposa Rules and Regulations 0.061, Health Department Policy 03-01, 13-22, 89-28, 89-10, 89-12, 91-06
9.1.6	Poorly drained soils	<i>Appropriate qualified professionals should give criteria for determination of representative percolation rates, including but not limited to, general site evaluation, trench logging, pre-soak and measurement methods of percolation tests, and acceptable alternatives for percolation tests.</i>	p. 8, 10, and 13	Mariposa Rules and Regulations 0.061, Health Department Policy 89-10, and 91-06
9.1.7	Vulnerable surface water	<i>Our key potential concern is eutrophication of fresh surface water. While typically with relatively low mobility in groundwater and recently informally banned in dishwater detergents, phosphate is a common cause. At minimum, describe appropriate qualified professionals who will consider potential pathways of wastewater-sourced phosphate and other nutrients toward potentially threatened nearby surface bodies.</i>	p. 12-13	Mariposa Rules and Regulations 0.061
9.1.8	Impaired water bodies	<i>Wolf Creek, Nevada County, and Woods Creek, Tuolumne County will require Tier 3 Advanced Protection Management Programs. This applies to Nevada, Placer, and Tuolumne Counties. See Attachment 2 of the OWTS Policy.</i>	p. 14	not applicable
9.1.9	High OWTS density areas	<i>Where nitrate is an identified chronic issue, at minimum, consider nitrogen loading per area; for example, see Hantzsche and Finnemore (1992), Crites and Tchobanoglous (1998), and more recent publications as appropriate.</i>	p. 17-18	Mariposa Rules and Regulations 0.061, Mariposa General Plan p. 5-30
9.1.10	Limits to parcel size	At minimum, consider hydraulic mounding, nitrate and pathogen loading, and sufficiency of potential replacement areas.	p. 9-10	Mariposa Rules and Regulations 0.061, Mariposa General Plan p. 5-30
9.1.11	areas with OWTS that predate adopted standards	This refers to areas with known, multiple existing OWTS.	p. 9-14	Mariposa Rules and Regulations 0.061
9.1.12	areas with OWTS either within prescriptive, Tier 1 setbacks, or within	This refers to areas with known, multiple existing OWTS.	p. 9-14	Mariposa Rules and Regulations 0.061, Health Department Policy 89-28



	setbacks that a Local Agency finds appropriate			
9.2	Scope of Coverage:	For Section 9.2 et seq, provide details on scope of coverage, for example maximum authorized projected flows, allowable system types, and their related requirements for site evaluation, siting, and design and construction requirements.	p. 7	Mariposa Rules and Regulations 0.061
9.2.1	Installation and Inspection Permits	Permits generally cover procedures for inspections, maintenance and repair of OWTS, including assurances that such work on failing systems is under permit; see Tier 4.	p. 6	Mariposa Rules and Regulations 0.061
9.2.2	Special Provision Areas and Requirements near Impaired Water Bodies	<i>Wolf Creek, Nevada County, and Woods Creek, Tuolumne County will require Tier 3 Advanced Protection Management Programs. This applies to Nevada, Placer, and Tuolumne Counties. See Attachment 2 of the OWTS Policy.</i>	Not applicable	Not applicable
9.2.3	LAMP Variance Procedures	Variances for new installations and repairs should be in substantial conformance to the Policy, to the greatest extent practicable. Variances cannot authorize prohibited items in Section 9.4.	p. 7	Mariposa Rules and Regulations 0.061
9.2.4	Qualifications for Persons who Work on OWTS	Qualifications generally cover requirements for education, training, and licensing. <i>We suggest that Local Agencies review information available from the California Onsite Water Association (COWA), see:</i>	p. 17-18	California Contractors Licensing Board
		<a href="http://www.cowa.org/">http://www.cowa.org/</a>		
9.2.5	Education and Outreach for OWTS Owners	Education and Outreach generally supports owners on locating, operating, and maintaining OWTS . At minimum, ensure that you will require OWTS designers and installers to provide owners with sufficient information to address critical maintenance, repairs, and parts replacements within 48 hours of failure; <i>see also Tier 4.</i> Also, provide information to appropriate volunteer groups. <i>At minimum, we suggesting providing this information on your</i>	p. 16	Mariposa Rules and Regulations 0.061

		<i>webpage.</i>		
9.2.6	Septage Disposal	Assess existing and proposed disposal locations, and their adequacy.	p. 17-18	County Code 13.12
9.2.7	Maintenance Districts and Zones	<i>These generally refer to Homeowners Associations, special maintenance districts, and similar responsible entities. Requirements for responsible entities should generally reflect the Local Agency's judgment on minimum sizes of subdivisions that could potentially cause environmental impacts. LAMPs should ensure that responsible entities have the financial resources, stability, legal authority, and professional qualifications to operate community OWTS.</i>	p. 15 III, Water Quality Impacts, C., Cumulative Impacts, page 18	Mariposa Rules and Regulations 0.061, Health Department Policy 03-01
9.2.8	Regional Salt and Nutrient Management Plans	Consider development and implementation of, or coordination with, Regional Salt and Nutrient Management Plans; <i>see also State Board Resolution 2009-0011:</i>	p. 18	Mariposa Rules and Regulations 0.061
		<a href="http://www.waterboards.ca.gov/centralvalley/water_issues/salinity/laws_regs_policies/rw_policy_implementation_mem.pdf">http://www.waterboards.ca.gov/centralvalley/water_issues/salinity/laws_regs_policies/rw_policy_implementation_mem.pdf</a>		
9.2.9	Watershed Management Groups	Coordinate <i>with volunteer well monitoring programs</i> and similar watershed management groups.	p.17	Not applicable
9.2.10	Proximity of Collection Systems to New or Replacement OWTS	Evaluate proximity of sewer systems to new and replacement OWTS. <i>See also Section 9.4.9.</i>	p. 14	Mariposa Rules and Regulations 0.061
9.2.11	Public Water System Notification prior to permitting OWTS Installation or Repairs	Give your notification procedures to inform public water services of pending OWTS installations and repairs within prescribed setback distances.	p. 18-19	Health Department Policy 16-02
9.2.12	Policies for Dispersal Areas within Setbacks of Public Wells and Surface Water Intakes	Discuss supplemental treatments; see Sections 10.9 and 10.10. A Local Agency can propose alternate criteria; <i>however we will need rationale in detail.</i>	p. 13 Minimum Setback Requirements, Table 1, page 12.	Mariposa Rules and Regulations 0.070, No encroachments allowed.

9.2.13	Cesspool Discontinuance and Phase-Out	Provide plans and schedule.	p. 7 I Introduction and Scope, E, General Overview and Types of OWTS, 3., Prohibitions, page 6, II Siting and Design, E., General Design Standards, page 14, IV, and Summary, page 21.	County Code 13.08.060
9.3	Minimum Local Agency Management Responsibilities:	For Section 9.3 et seq, discuss minimum responsibilities for LAMP management. Responsibilities should generally cover data compilation, water quality assessment, follow-up on issues, and reporting to the Central Valley Water Board:	p. 19-20	Waterboard Policy Section 3.3 and Mariposa County Sewage Disposal Rules and Regulations Section .055
9.3.1	Permit Records, OWTS with Variances	Describe your records maintenance; numbers, locations, and descriptions of permits where you have granted variances.	p. 19	Waterboard Policy Section 3.3 and Mariposa County Sewage Disposal Rules and Regulations Section .055
9.3.2	Water Quality Assessment Program:	In the Water Quality Assessment Program, generally focus on areas with characteristics covered in Section 9.1. Include monitoring and analysis of water quality data, complaints, variances, failures, and inspections. Also include appropriate monitoring for nitrate and pathogens; you can use information from other programs. <i>We are available to provide further guidance on reporting requirements. In the interim, to assist with analyses and evaluation reports (Section 9.3.3), we suggest posting data on appropriate maps; for example consider the following links:</i>	p. 19-22	Waterboard Policy Section 3.3 and Mariposa County Sewage Disposal Rules and Regulations Section .055
		<a href="http://www.nrcs.usda.gov/wps/portal/nrcs/site/ca/home/">http://www.nrcs.usda.gov/wps/portal/nrcs/site/ca/home/</a>		
		<a href="http://www.cdpr.ca.gov/docs/emon/grndwtr/gwpa_maps.htm">http://www.cdpr.ca.gov/docs/emon/grndwtr/gwpa_maps.htm</a>		
		<a href="http://ngmdb.usgs.gov/maps/mapview/">http://ngmdb.usgs.gov/maps/mapview/</a>		
		<a href="http://www.conservation.ca.gov/cgs/information/publications/ms/Documents/MS58.pdf">http://www.conservation.ca.gov/cgs/information/publications/ms/Documents/MS58.pdf</a>		
		<a href="http://www.water.ca.gov/groundwater/data_and_monitoring/north_ern_region/GroundwaterLevel/SacValGWContours/100t400_Well">http://www.water.ca.gov/groundwater/data_and_monitoring/north_ern_region/GroundwaterLevel/SacValGWContours/100t400_Well</a>		

		<a href="#">s_Spring-2013.pdf</a>		
		<a href="http://www.water.ca.gov/waterdatalibrary/">http://www.water.ca.gov/waterdatalibrary/</a>		
		<a href="http://www.waterboards.ca.gov/gama/docs/hva_map_table.pdf">http://www.waterboards.ca.gov/gama/docs/hva_map_table.pdf</a>		
		<a href="http://geotracker.waterboards.ca.gov/gama/">http://geotracker.waterboards.ca.gov/gama/</a>		
		<a href="http://msc.fema.gov/portal">http://msc.fema.gov/portal</a>		
9.3.2.1	Domestic Well Sampling	<i>Apply your best professional judgment to ensure that well sampling focuses on hydrogeologically reasonable pollutant (primarily nitrate) flow paths. A qualified professional should generally design an appropriate directed, judgmental, sample (i.e., statistically non-random). Of the links provided, the Geotracker GAMA website might be particularly useful to the professional; at minimum we suggest reviews of available nitrate data in relevant domestic wells, up-gradient, within, and down-gradient of an area of interest. For some instances, for example where a developer proposes a relatively large project, a Local Agency might require a special study to distinguish between wastewater and non-wastewater sourced nitrate. In such cases, we suggest your consideration of requiring focused sampling and analyses, for example of <math>\delta^{18}O</math> and <math>\delta^{15}N</math> of nitrate (Megan Young, USGS, 2014 pers comm), and the artificial sweeteners sucralose and acesulfame-K (Buerge et al 2009, Van Stempvoort et al 2011, and more recent publications as they become available).</i>	p. 19	Health Department Policy 08-02
9.3.2.2	Domestic Well Sampling, Routine Real Estate Transfer Related	This applies only if those samples are routinely performed and reported.	p. 19	Not applicable
9.3.2.3	Water Quality of Public Water Systems	Reviews can be by you or another municipality.	p. 19	Not applicable
9.3.2.4	Domestic Well Sampling, New Well Development	This applies if those data are reported.	p. 19	Not applicable
9.3.2.5	Beach Water Quality Sampling, H&S Code §115885	<i>Public beaches include those on freshwater.</i>	p. 19	Not applicable
9.3.2.6	Receiving Water Sampling Related to	This refers to existing data from other monitoring programs.	p. 19	Not applicable

	NPDES Permits			
9.3.2.7	Data contained in California Water Quality Assessment Database	This refers to existing data from other monitoring programs.	p. 19	Not applicable
9.3.2.8	Groundwater Sampling Related to Waste Discharge Requirements	This refers to existing data from other monitoring programs.	p. 19	Not applicable
9.3.2.9	Groundwater Sampling Related to GAMA Program	This refers to existing data from other monitoring programs.	p. 19	Not applicable
9.3.3	Annual Status Reports Covering 9.3.1-9.3.2	Reports are due 1 February, annually beginning one year after Regional Board approves LAMP. Every fifth year also include an evaluation report. Submit all groundwater monitoring data in Electronic Delivery Format (EDF) for Geotracker; submit all surface water data to CEDEN.	p. 20	Waterboard Policy Section 3.3 and Mariposa County Sewage Disposal Rules and Regulations Section .055
9.4	Not Allowed or Authorized in LAMP:	For Section 9.4 et seq, ensure that your LAMP covers prohibitions.	p. 5-6	Waterboard Policy Section 3.3 and Mariposa County Sewage Disposal Rules and Regulations Section .055
9.4.1	Cesspools	Local Agencies cannot authorize cesspools of any kind or size.	p. 7 I Introduction and Scope, E, General Overview and Types of OWTs, 3., Prohibitions, page 6, II Siting and Design, E., General Design Standards, page 14,	County Code 13.08.060

			IV, and Summary, page 21.	
9.4.2	Projected Flow > 10,000 gpd	<i>Apply professional judgment to further limit projected flows.</i>	p. 6	Not applicable
9.4.3	Effluent Discharges Above Post-Installation Ground Surface	For example, Local Agencies cannot authorize effluent disposal using sprinklers, exposed drip lines, free-surface wetlands, and ponds.	p. 7	County Code 13.08.060
9.4.4	Installation on Slopes > 30% without Registered Professional's Report	<i>See also earlier comments, Section 9.1.1, regarding potential geotechnical concerns.</i>	p. 10	Mariposa Rules and Regulations 0.070
9.4.5	Decreased Leaching Area for IAPMO-Certified Dispersal System with Multiplier < 0.70	IAPMO, International Association of Plumbing and Mechanical Officials. <i>Decreased leaching area refers to alternatives to conventional (stone-and-pipe) dispersal systems; these alternatives require relatively less area. The multiplier, &lt; 1, allows for a reduction in dispersal field area relative to a conventional system.</i>	p. 11	Mariposa Rules and Regulations 0.061
9.4.6	Supplemental Treatments without Monitoring and Inspection	<i>Therefore, ensure that the LAMP describes periodic inspection and monitoring for OWTS with supplemental treatments.</i>	p. 15	Mariposa Rules and Regulations 0.061
9.4.7	Significant Wastes from RV Holding Tanks	<i>We interpret significant amounts to mean amounts greater than incidental dumping, such that volume, frequency, overall strength, or chemical additives preclude definition as domestic wastewater; see Definitions in OWTS Policy. See also, State Water Resources Control Board Order WQ 2014-0153-DWQ, Attachment B-2.</i>	p. 5-6	Mariposa Rules and Regulations 0.061
9.4.8	Encroachment Above Groundwater	Bottom of OWTS dispersal systems cannot be less than 2 feet above groundwater, or bottom of seepage pits, less than 10 feet above groundwater. <i>We interpret groundwater to include inter-flow and perched zones, along with the shallowest main unconfined aquifer. Degree of vulnerability to pollution due to hydrogeological conditions, Section 9.1.1, and the Water Quality Assessment, Section 9.3.2., should cover in detail means of assessing seasonally shallowest depth to groundwater.</i>	p. 7	Waterboard Policy, Basin Plan Mariposa County Rules and Regulations sections .061 & .066

9.4.9	Installations Near Existing Sewers	New and replacement OWTS cannot occur on any lot with available public sewers less than 200 feet from a building or exterior drainage facility (exception; connection fees plus construction costs are greater than 2 times the replacement OWTS costs, and Local Agency determines no impairment to any drinking water.)	p. 14	County Code 13.08.060
9.4.10	Minimum Setbacks:	These setbacks are from public water systems.	p. 19	Mariposa Rules and Regulations 0.061
9.4.10.1	From Public Supply Wells	If the dispersal system is less than 10' in depth, then the setback must be greater than 150' from public water supply well.	p. 18	Mariposa Rules and Regulations 0.070
9.4.10.2		If the dispersal system is greater than 10' in depth, then the setback must be greater than 200' from public water supply well.	p. 18	Mariposa Rules and Regulations 0.070
9.4.10.3	From Public Supply Wells, Regarding Pathogens	If the dispersal system is greater than 20' in depth, and less than 600' from public water supply well, then the setback must be greater than the distance for two-year travel time of microbiological contaminants, as determined by qualified professional. In no case shall the setback be less than 200'.	p. 18	Mariposa Rules and Regulations 0.070
9.4.10.4	From Public Surface Water Supplies	If the dispersal system is less than 1,200' from public water system's surface water intake, within its drainage catchment, and potentially threatens an intake, then the setback must be greater than 400' from the high water mark of the surface water body.	p. 18	Mariposa Rules and Regulations 0.070, Waterboard Policy Section 9.4.10.4
9.4.10.5	From Public Surface Water Supplies	If the dispersal system is greater than 1,200', but less than 2,500', from public water system's surface water intake, within its drainage catchment, and potentially threatens an intake, then the setback must be greater than 200' from high water mark of surface water body.	p. 18	Mariposa Rules and Regulations 0.061
9.4.11	Supplemental Treatments, Replacement OWTS That Do Not Meet Minimum Setback Requirements	Replacement OWTS shall meet minimum horizontal setbacks to the maximum extent practicable.	p. 6, 8, and 12	Mariposa Rules and Regulations 0.070
9.4.12	Supplemental Treatments, New OWTS That Do Not Meet Minimum Setback Requirements	New OWTS shall meet minimum horizontal setbacks to the maximum extent practicable, and meet requirements for pathogens as specified in Section 10.8. and any other Local Agency's mitigation measures.	p. 12-14	Mariposa Rules and Regulations 0.070

9.5	Technical Support of LAMP	Include adequate detail to ensure that the combination of all proposed criteria will protect water quality and public health sufficiently to warrant the Central Valley Water Board's waiver of Waste Discharge Requirements, pursuant to §13269, California Water Code.	p. 1-22	
9.6	Regional Water Quality Control Board Consideration of LAMP	Regional Boards shall consider past performance of local programs to protect water quality. <i>We will generally consider past performance based on our reviews of annual status and evaluation reports; see Section 9.3.3.</i>		